

# Webinar Transcript

## Evidence-based Interventions: An Overview

### Slide No. 1:

Welcome to today's webinar on the Every Student Succeeds Act, also known as ESSA, requirements for evidence-based interventions. This webinar is brought to you by District 180 in the Office of Continuous Improvement and Support at the Kentucky Department of Education.

### Slide No. 2:

Our agenda is on the screen. During this webinar, we will define evidence-based interventions, discuss the five steps for implementing an intervention, explore the differences between research-based and evidence-based interventions, and define the four ESSA evidence levels. Before continuing with this webinar and if you have not already done so, please download the *Supplemental Materials* packet, which can be found on the Evidence-Based webpage and beneath the link to this webinar.

### Slide No. 3:

Here are our objectives for today: By the end of this training, you will be able to describe the characteristics of an evidence-based intervention, recognize evidence-based language, and define the four ESSA evidence levels.

### Slide No. 4:

OK – so let's begin with where these new rules for evidence-based come from. Evidence-based is not a new term in the law or even in education, but the Every Student Succeeds Act defined evidence-based for educational purposes for the first time. The term is well referenced in the education laws-on both federal and state levels.

### Slide No. 5:

The Elementary and Secondary Education Act (ESEA) calls for the use of evidence-based activities, strategies, and interventions to accelerate student learning. The Every Student Succeeds Act (ESSA) takes it a step further by establishing a framework with levels of evidence for consideration and by use of school districts when selecting evidence-based activities, strategies, and interventions – especially related to school improvement.

### Slide No. 6:

As we begin to implement new interventions in our schools, there are some areas that require interventions be evidence-based. Those areas include:

School improvement plans for all comprehensive support and improvement, abbreviated as CSI, and targeted support and improvement, abbreviated as TSI, applications for school improvement funds (Section 1003), and Title I, Part A parent and family engagement activities. In Kentucky, evidence-based interventions are also required in all CSI turnaround plans and TSI school improvement plans.

**Slide No. 7:**

Let's briefly discuss the five steps for implementing an intervention. In order for interventions to be successful in a school, we must take time to carefully vet the intervention and ensure it is implemented with fidelity. The first step in this process is to identify local needs. After a thorough needs assessment has been completed, it is easier for a school to see what areas of improvement should be prioritized. Next, the school should select relevant and evidence-based interventions. This is the step that we will be discussing throughout the remainder of this webinar.

Once an intervention is selected, the school should develop a detailed plan for implementing the intervention. The plan should include regular benchmarks and assessment mechanisms, as well as identify specific deadlines and responsible shareholders. The school should implement its plan with fidelity, taking time to regularly check in and monitor the progress. Finally, a school should examine, reflect, and measure the results of an intervention and make any necessary changes before continuing its implementation.

**Slide No. 8:**

As we transition from research-based approaches to evidence-based interventions, let's take a moment to explore the difference between the two. A research-based intervention is one that is founded in an accumulation of facts that have been obtained by research. This research could include a wide range of study designs and research methods and could represent an amalgam of existing learning theories. Evidence-based interventions represent a sub-set of research based interventions.

All evidence-based interventions are research based, but not all research based interventions are evidence-based. An evidence-based intervention is one that is founded in the demonstration of statistically significant effect on improving student outcomes. Typically, these studies will be experimental, quasi-experimental or correlational in nature.

**Slide No. 9:**

Most evidence-based interventions will share a set of common characteristics, including the following:

- They are supported by a preponderance of scholarly literature.
- They have been studied using a study design that measures the impact of the intervention.

- The study results are supported by statistical analysis.
- They use a study design that compares the achievement of a control group to an intervention group.
- They may be based on long-term changes in archival data.
- They are not overridden by more recent or more rigorous research.

**Slide No. 10:**

As you begin to explore new interventions for your school, learning to differentiate between research-based and evidence-based interventions is vital to this process. We're calling this *the sniff test*.

**Slide No. 11:**

We have all seen marketing materials like the one on the screen. The creators of interventions are very good at succinctly describing research related to their past success. These marketing blurbs are designed to catch your eye and get you to ask more detailed questions of the salesperson. By recognizing the subtle differences between research-based statements and evidence-based statements, you will be able to sift through these marketing resources much faster.

**Slide No. 12:**

A research-based statement may read like the one on the screen: "This intervention is rooted in a combination of Skinner's operant conditioning theory and Bandura's self-efficacy theory." While this statement does cite two very well-established and evidence-based theories, it does not describe an intervention that is evidence-based.

An evidence-based statement may read like this, "A 2015 study showed that this intervention had a statistically positive impact on student outcomes when the intervention group was compared to the control group." You can see that the last statement aligns more closely with the criteria mentioned earlier. It references a relatively recent study that compares the achievement of two groups using statistical analysis.

**Slide No. 13:**

Take a moment to practice *the sniff test* using the cards available in the resources download for this webinar. With your team or on your own, review each of the eight cards available in the packet. Determine whether or not each research-based statement is also an evidence-based statement. Take a moment to defend your answer.

Pause the webinar now. When you are finished, resume playing to see the correct answers.

## Slide No. 14:

Welcome back! Let's see how you did.

Card 1: Schmocker suggests that generous amounts of close purposeful reading, writing, and talking are the essence of authentic literacy (2006).

This statement is not evidence-based. This card does not include specifics regarding the nature of the study.

Card 2: Results indicated no overall statistically significant differences for any condition, with effect sizes ranging from  $-.31$  to  $.27$ . Findings do not support either approach for severely impaired readers at the high school level (Denton, 2010).

This statement is evidence-based. This card describes the statistical significant difference between two strategies. It is important to note here that, even though the statement describes an intervention that appears not to work, the statement itself is still evidence-based.

Card 3: The creation of talent development schools exhibited modest impacts on eighth-grade attendance rates but did not produce a consistent pattern of impacts, positive or negative, on seventh-grade math or reading achievement or attendance (Herlihy and Kemple, 2004).

This statement is evidence-based. This card describes the impact of an intervention on five domains of achievement. While it doesn't specifically cite a statistical figure, it does suggest that the impact was measured and would warrant further investigation by the intervention selection team.

Card 4: Cynthia Coburn (2003) mentions that taking reforms to scale involves three important decisions: (1) depth, (2) sustainability and (3) shift in reform ownership.

This statement is not evidence-based. This card references the philosophy of an individual.

Card 5: Intervention children out-performed control children at posttest on all 14 outcomes, with average effect sizes (Cohen's  $d$ ) on standardized measures of  $.80$  and on experimental measures of  $1.69$  (Sevick & Morris, 2017).

This statement is evidence-based. This card references a statistical analysis of the achievement between two groups.

Card 6: In a learning episode, we tend to remember best that which comes first, and remember second best that which comes last. We tend to remember least that which comes just past the middle of the episode (Sousa 2001).

This statement is not evidence-based. This card presents a re-statement of an established learning theory.

Card 7: Ten studies (12 independent samples) yielded 70 effect sizes on norm-referenced reading measures with an aggregated mean of 0.41 (SE=.04) in favor of the experimental condition (Zheng & Swanson, 2012).

This statement is evidence-based. This card describes an aggregation of 10 studies on a common experimental condition.

Card 8: To gain knowledge, we must construct it in our minds. Writing what we are trying to internalize helps us achieve that purpose. When we are able to make connections in writing, we begin to take ownership of these connections (Paul & Elder, 2007).

This statement is not evidence-based. This card references the philosophy of an individual.

**Slide No. 15:**

Now, let's move on and discuss the four levels of evidence described by the Every Student Succeeds Act.

**Slide No. 16:**

ESSA breaks the definition of evidence-based into four distinct levels. The level reflects the rigor of the study used to design the intervention. These levels will be important to you later on, because federal funding sources will be tied to different evidence levels. For example, school improvement funds may only be spent on interventions supported by Level I, Level II or Level III evidence.

**Slide No. 17:**

The four ESSA evidence levels describe the rigor of the study used to determine the effectiveness of an intervention. We will explore the levels beginning with Level IV, the least rigorous standards, and ending with Level I, the most rigorous standard.

Level IV – Demonstrates a Rationale: A piece of evidence demonstrates a rationale if:

- It provides a well-specified logic model informed by research or evaluation.
  - A logic model is a conceptual framework that identifies the key components of the proposed intervention and describes the relationship among those key components and outcomes—theoretically and operationally.
- Relevant research or an evaluation suggests that the intervention is likely to improve a student outcome or relevant outcome.
- An effort to study the effects of the intervention, ideally producing a promising evidence or higher, will happen as a part of the intervention or is underway elsewhere.

Level III – Promising Evidence: A piece of evidence is considered promising evidence if:

- It is a correlational study with statistical controls for selection bias.
  - A correlational study is one that relies on observational, archival, or survey data to draw a statistical conclusion. Correlation does not equal causation, but may suggest that an intervention could have a positive impact on a population.
- It shows a statistically significant and positive effect of the intervention on a student outcome or related outcome.
- It is not overridden by statistically significant and negative evidence from findings in other studies.

Level II – Moderate Evidence: A piece of evidence is considered moderate evidence if:

- It uses a quasi-experimental study design.
  - A quasi-experimental study design is one in which two previously assigned groups of study participants are compared to determine if an intervention was successful. One study group, the intervention group, receives the intervention. The other group, the control group, does not receive the intervention. By comparing the two groups, researchers are able to measure the effect of an intervention.
- It meets What Works Clearinghouse (WWC) evidence standards with or without reservations.
  - The What Works Clearinghouse (WWC) is part of the United States Institute for Education Sciences. The WWC reviews the existing research on different programs, products, practices, and policies in education. Its goal is to provide educators with the information they need to make evidence-based decisions.
- It shows a statistically significant and positive effect of the intervention on a student outcome or related outcome.
- Is not overridden by statistically significant and negative evidence from findings in other studies
- Includes a large and multi-site sample, overlapping with school population or settings.

Level I – Strong evidence: A piece of evidence is considered strong evidence if:

- It uses an experimental study design.
  - An experimental study design is one in which two randomly assigned groups of study participants are compared to determine if an intervention was successful. One study group, the intervention group, receives the intervention. The other group, the control group, does not receive the intervention. By comparing the two groups, researchers are able to measure the effect of an intervention.
- It meets WWC evidence standards without reservations.
- It shows a statistically significant and positive effect of the intervention on a student outcome or related outcome.

- Is not overridden by statistically significant and negative evidence from findings in other studies
- Includes a large and multi-site sample, overlapping with school populations and settings.

The *Supplemental Materials* packet includes a chart that outlines each of the four evidence levels, which summarizes the information shared above into one easy-to-understand chart.

**Slide No. 18:**

Thank you for participating in today's webinar. You have been provided with a brief overview of evidence-based interventions and the associated levels as defined by the Every Student Succeeds Act. For more detailed information about how evidence-based interventions may impact your school, please review the [\*Non-Regulatory Guidance: Using Evidence to Strengthen Educational Investments\*](#) provided by the U.S. Department of Education, which is hyperlinked for your convenience in the webinar and which served as a resource for today's presentation.

**Slide No. 19:**

If you have questions regarding evidence-based interventions, please contact the District 180 branch in the Office of Continuous Improvement and Support at (502) 564-2116.